

## WHAT IS CLAIMED IS:

1. A method of treating unwanted hair, comprising transmitting acoustic waves through the hair so as to generate heat at a follicle, a dermal papilla, a hair bulge and/or a germinal matrix of the hair, said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.
2. The method of claim 1, further comprising using a wave condenser for condensing said acoustic waves, prior to said transmitting of said acoustic waves through the hair.
3. The method of claim 1, further comprising gripping the hair prior to transmitting of said acoustic waves so as to enhance acoustic coupling between the hair and said acoustic waves.
4. The method of claim 3, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.
5. The method of claim 3, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.
6. The method of claim 3, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.
7. The method of claim 3, further comprising pulling the hair so as to effect a detachment of the hair.

8. The method of claim 3, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

9. The method of claim 8, wherein said coupling length is longer than about 1 mm.

10. The method of claim 8, wherein said coupling length is shorter than about 6 mm.

11. The method of claim 1, wherein said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

12. The method of claim 1, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

13. The method of claim 12, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

14. The method of claim 13, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

15. The method of claim 13, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

16. The method of claim 1, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected such that said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

17. The method of claim 16, wherein said frequency is an off-resonance frequency.

18. The method of claim 16, wherein said acoustic waves comprise ultrasound waves.

19. The method of claim 18, wherein said ultrasound waves are at a frequency of at least 150 kHz.

20. The method of claim 18, wherein said ultrasound waves are at a frequency of at least 500 kHz.

21. The method of claim 18, wherein said ultrasound waves are at a frequency range of from about 150 kHz to about 1300 kHz.

22. The method of claim 18, wherein said ultrasound waves are at a frequency range of from about 500 kHz to about 1000 kHz.

23. The method of claim 1, wherein duration of transmission of said acoustic waves is less than about 5 seconds.

24. The method of claim 1, wherein duration of transmission of said acoustic waves is less than about 1 second.

25. A device for treating unwanted hair, the device comprising:  
a transducer for generating acoustic waves; and

a wave condenser for condensing and transmitting said acoustic waves through the hair so as to generate heat at a follicle, a dermal papilla, a hair bulge and/or a germinal matrix of the hair;

said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.

26. The device of claim 25, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.

27. The device of claim 25, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.

28. The device of claim 25, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.

29. The device of claim 25, wherein said wave condenser is designed and constructed to grip the hair so as to enhance acoustic coupling between the hair and said acoustic waves.

30. The device of claim 29, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

31. The device of claim 30, wherein said coupling length is longer than 1 mm.

32. The device of claim 30, wherein said coupling length is shorter than about 6 mm.

33. The device of claim 25, wherein said transducer and said wave condenser are designed and constructed such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

34. The device of claim 25, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

35. The device of claim 34, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

36. The device of claim 35, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

37. The device of claim 35, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

38. The device of claim 25, wherein at least one of: a frequency, a power density and a duration of transmission of said acoustic waves is selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

39. The device of claim 38, wherein said frequency is an off-resonance frequency.

40. The device of claim 38, wherein said transducer is an ultrasound transducer generating ultrasound waves.

41. The device of claim 25, wherein said transducer comprises an active element selected from the group consisting of a piezoelectric ceramic element, and a piezoelectric composite element.

42. The device of claim 41, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one active element.

43. The device of claim 41, wherein said wave condenser comprises a first part coupled to said first part of said transducer, and a second part coupled to said second part of said transducer.

44. The device of claim 41, wherein said transducer comprises a planar active element.

45. The device of claim 41, wherein said transducer comprises a concaved active element.

46. The device of claim 41, wherein said transducer comprises a plurality of active elements arranged on a surface.

47. The device of claim 46, wherein said surface is a plane.

48. The device of claim 46, wherein said surface is a concaved surface.

49. The device of claim 25, further comprising a focusing element coupling said transducer and said wave condenser, said focusing element being designed and constructed to focus said acoustic waves into said wave condenser.

50. The device of claim 49, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one active element.

51. The device of claim 41, wherein each of said wave condenser and said focusing element comprises a first part and a second part, and further wherein said first part of said focusing element couples said first part of said transducer and said first part of said wave condenser and said second part of said focusing element couples said second part of said transducer and said second part of said wave condenser.

52. The device of claim 49, wherein said focusing element comprises a tapered housing.

53. The device of claim 52, wherein a profile of said tapered housing is selected from the group consisting of a stepped profile, a linear profile, a segmented linear profile and an exponential profile.

54. The device of claim 46, further comprising a plurality of focusing elements arranged such that each focusing element of said plurality of focusing elements is connected to one active element of said plurality of active elements and being designed and constructed to focus a respective portion of said acoustic waves into said wave condenser.

55. The device of claim 40, wherein said wave condenser comprises a chamber configured to receive the hair such that energy of said acoustic waves is transferred to the hair from a plurality of directions.

56. The device of claim 55, wherein said chamber contains an ultrasound transmission gel.

57. The device of claim 55, wherein said wave condenser comprises a surface characterized by a radius of curvature of from about 1 millimeter to about 10 millimeters.

58. The device of claim 57, wherein a shape of said surface is selected from the group consisting of a sphere, a cylinder, an ellipsoid, a paraboloid, a hyperboloid and any combination or portion thereof.

59. The device of claim 25, wherein said wave condenser is operable to split thereby to form a gap for receiving the hair.

60. The device of claim 25, wherein said wave condenser and said transducer are operable to split thereby to form a gap for receiving the hair.

61. The device of claim 49, wherein said wave condenser and at least one of said transducer and said focusing element are operable to split thereby to form a gap for receiving the hair.

62. The device of claim 59, further comprising a drive mechanism for imparting a motion of said wave condenser relative to the hair.

63. The device of claim 62, wherein said wave condenser is operable to periodically split and reassemble in a manner such that when said wave condenser splits, the hair engages said gap, and when said wave condenser is reassembled, the hair is gripped by said wave condenser and irradiated by said acoustic waves.

64. The device of claim 62, wherein said drive mechanism is configured to impart a rotary motion to said wave condenser.

65. The device of claim 62, wherein said drive mechanism is configured to impart a reciprocal linear motion to said wave condenser.

66. The device of claim 25, further comprising a hair capturer, operatively associated with said wave condenser, for capturing the hair.

67. The device of claim 66, wherein said hair capturer is selected from the group consisting of a brush, a net and a clamp.

68. The device of claim 66, wherein said hair capturer is operable to lubricate the hair with an ultrasound transmission gel.



69. The device of claim 66, further comprising said ultrasound transmission gel.

70. The device of claim 66, wherein said hair capturer is operable to pull the hair so as to effect a detachment of the hair.

71. The device of claim 40, wherein said ultrasound waves are at a frequency of at least 150 kHz.

72. The device of claim 40, wherein said ultrasound waves are at a frequency of at least 500 kHz.

73. The device of claim 40, wherein said ultrasound waves are at a frequency range of from about 150 kHz to about 1300 kHz.

74. The device of claim 40, wherein said ultrasound waves are at a frequency range of from about 500 kHz to about 1000 kHz.

75. The device of claim 25, wherein said transducer is configured to generate said acoustic waves at a power density of at least 1 watt per square centimeter.

76. The device of claim 25, wherein said transducer is configured to generate said acoustic waves at a power density of from about 1 watt per square centimeter to about 100 watts per square centimeter.

77. A method of treating unwanted hair, comprising gripping a segment of the hair and transmitting acoustic waves through the hair, wherein a length of said segment of the hair is selected so as to enhance an acoustic coupling between the hair and said acoustic waves.

78. The method of claim 77, wherein said transmitting said acoustic waves through the hair is for generating heat at a follicle, a dermal papilla, a hair bulge and/or

a germinal matrix of the hair, said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.

79. The method of claim 77, further comprising using a wave condenser for condensing said acoustic waves, prior to said transmitting of said acoustic waves through the hair.

80. The method of claim 79, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.

81. The method of claim 79, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.

82. The method of claim 79, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.

83. The method of claim 79, further comprising pulling the hair so as to effect a detachment of the hair.

84. The method of claim 79, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

85. The method of claim 84, wherein said coupling length is longer than about 1 mm.

86. The method of claim 84, wherein said coupling length is shorter than about 6 mm.

87. The method of claim 77, wherein said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

88. The method of claim 77, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

89. The method of claim 12, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

90. The method of claim 89, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

91. The method of claim 89, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

92. The method of claim 77, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected such that said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

93. The method of claim 92, wherein said frequency is an off-resonance frequency.

94. The method of claim 92, wherein said acoustic waves comprise ultrasound waves.

95. The method of claim 94, wherein said ultrasound waves are at a frequency of at least 150 kHz.

96. The method of claim 94, wherein said ultrasound waves are at a frequency of at least 500 kHz.

97. The method of claim 94, wherein said ultrasound waves are at a frequency range of from about 150 kHz to about 1300 kHz.

98. The method of claim 94, wherein said ultrasound waves are at a frequency range of from about 500 kHz to about 1000 kHz.

99. The method of claim 77, wherein duration of transmission of said acoustic waves is less than about 5 seconds.

100. The method of claim 77, wherein duration of transmission of said acoustic waves is less than about 1 second.

101. A device for treating unwanted hair, the device comprising:  
a transducer for generating acoustic waves; and  
a wave condenser for condensing and transmitting said acoustic waves through the hair, said wave condenser being designed and constructed to grip the hair so as to enhance acoustic coupling between the hair and said acoustic waves.

102. The device of claim 101, wherein said transducer and said wave condenser are designed and constructed such that when said acoustic waves are transmitting through the hair, heat is generated at a follicle, a dermal papilla, a hair bulge and/or a germinal matrix of the hair, said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.

103. The device of claim 101, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.

104. The device of claim 101, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.

105. The device of claim 101, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.

106. The device of claim 101, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

107. The device of claim 106, wherein said coupling length is longer than 1 mm.

108. The device of claim 106, wherein said coupling length is shorter than about 6 mm.

109. The device of claim 101, wherein said transducer and said wave condenser are designed and constructed such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

110. The device of claim 101, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

111. The device of claim 110, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

112. The device of claim 111, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

113. The device of claim 111, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

114. The device of claim 101, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

115. The device of claim 114, wherein said frequency is an off-resonance frequency.

116. The device of claim 114, wherein said transducer is an ultrasound transducer generating ultrasound waves.

117. The device of claim 101, wherein said transducer comprises an active element selected from the group consisting of a piezoelectric ceramic element, and a piezoelectric composite element.

118. The device of claim 117, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one active element.

119. The device of claim 117, wherein said wave condenser comprises a first part coupled to said first part of said transducer, and a second part coupled to said second part of said transducer.

120. The device of claim 117, wherein said transducer comprises a planar active element.

121. The device of claim 117, wherein said transducer comprises a concaved active element.

122. The device of claim 117, wherein said transducer comprises a plurality of active elements arranged on a surface.

123. The device of claim 122, wherein said surface is a plane.

124. The device of claim 122, wherein said surface is a concaved surface.

125. The device of claim 101, further comprising a focusing element coupling said transducer and said wave condenser, said focusing element being designed and constructed to focus said acoustic waves into said wave condenser.

126. The device of claim 125, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one active element.

127. The device of claim 117, wherein each of said wave condenser and said focusing element comprises a first part and a second part, and further wherein said first part of said focusing element couples said first part of said transducer and said first part of said wave condenser and said second part of said focusing element couples said second part of said transducer and said second part of said wave condenser.

128. The device of claim 125, wherein said focusing element comprises a tapered housing.

129. The device of claim 128, wherein a profile of said tapered housing is selected from the group consisting of a stepped profile, a linear profile, a segmented linear profile and an exponential profile.

130. The device of claim 122, further comprising a plurality of focusing elements arranged such that each focusing element of said plurality of focusing elements is connected to one active element of said plurality of active elements and being designed and constructed to focus a respective portion of said acoustic waves into said wave condenser.

131. The device of claim 116, wherein said wave condenser comprises a chamber configured to receive the hair such that energy of said acoustic waves is transferred to the hair from a plurality of directions.

132. The device of claim 131, wherein said chamber contains an ultrasound transmission gel.

133. The device of claim 131, wherein said wave condenser comprises a surface characterized by a radius of curvature of from about 1 millimeter to about 10 millimeters.

134. The device of claim 133, wherein a shape of said surface is selected from the group consisting of a sphere, a cylinder, an ellipsoid, a paraboloid, a hyperboloid and any combination or portion thereof.

135. The device of claim 101, wherein said wave condenser is operable to split thereby to form a gap for receiving the hair.

136. The device of claim 101, wherein said wave condenser and said transducer are operable to split thereby to form a gap for receiving the hair.



137. The device of claim 125, wherein said wave condenser and at least one of said transducer and said focusing element are operable to split thereby to form a gap for receiving the hair.

138. The device of claim 135, further comprising a drive mechanism for imparting a motion of said wave condenser relative to the hair.

139. The device of claim 138, wherein said wave condenser is operable to periodically split and reassemble in a manner such that when said wave condenser splits, the hair engages said gap, and when said wave condenser is reassembled, the hair is gripped by said wave condenser and irradiated by said acoustic waves.

140. The device of claim 138, wherein said drive mechanism is configured to impart a rotary motion to said wave condenser.

141. The device of claim 138, wherein said drive mechanism is configured to impart a reciprocal linear motion to said wave condenser.

142. The device of claim 101, further comprising a hair capturer, operatively associated with said wave condenser, for capturing the hair.

143. The device of claim 142, wherein said hair capturer is selected from the group consisting of a brush, a net and a clamp.

144. The device of claim 142, wherein said hair capturer is operable to lubricate the hair with an ultrasound transmission gel.

145. The device of claim 142, further comprising said ultrasound transmission gel.

146. The device of claim 142, wherein said hair capturer is operable to pull the hair so as to effect a detachment of the hair.

147. The device of claim 116, wherein said ultrasound waves are at a frequency of at least 150 kHz.

148. The device of claim 116, wherein said ultrasound waves are at a frequency of at least 500 kHz.

149. The device of claim 116, wherein said ultrasound waves are at a frequency range of from about 150 kHz to about 1300 kHz.

150. The device of claim 116, wherein said ultrasound waves are at a frequency range of from about 500 kHz to about 1000 kHz.

151. The device of claim 101, wherein said transducer is configured to generate said acoustic waves at a power density of at least 1 watt per square centimeter.

152. The device of claim 101, wherein said transducer is configured to generate said acoustic waves at a power density of from about 1 watt per square centimeter to about 100 watts per square centimeter.

153. A method of treating unwanted hair, comprising transmitting acoustic waves through the hair wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

154. The method of claim 153, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

155. The method of claim 153, wherein said transmitting said acoustic waves through the hair is for generating heat at a follicle, a dermal papilla, a hair bulge and/or a germinal matrix of the hair, said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.

156. The method of claim 153, further comprising using a wave condenser for condensing said acoustic waves, prior to said transmitting of said acoustic waves through the hair.

157. The method of claim 153, further comprising gripping the hair prior to transmitting of said acoustic waves so as to enhance acoustic coupling between the hair and said acoustic waves.

158. The method of claim 157, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.

159. The method of claim 157, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.

160. The method of claim 157, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.

161. The method of claim 157, further comprising pulling the hair so as to effect a detachment of the hair.

162. The method of claim 157, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

163. The method of claim 162, wherein said coupling length is longer than about 1 mm.

164. The method of claim 162, wherein said coupling length is shorter than about 6 mm.

165. The method of claim 153, wherein said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

166. The method of claim 154, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

167. The method of claim 154, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

168. The method of claim 153, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected such that said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

169. The method of claim 168, wherein said frequency is an off-resonance frequency.

170. The method of claim 168, wherein said acoustic waves comprise ultrasound waves.

171. The method of claim 170, wherein said ultrasound waves are at a frequency of at least 150 kHz.

172. The method of claim 170, wherein said ultrasound waves are at a frequency of at least 500 kHz.

173. The method of claim 170, wherein said ultrasound waves are at a frequency range of from about 150 kHz to about 1300 kHz.

174. The method of claim 170, wherein said ultrasound waves are at a frequency range of from about 500 kHz to about 1000 kHz.

175. The method of claim 153, wherein duration of transmission of said acoustic waves is less than about 5 seconds.

176. The method of claim 153, wherein duration of transmission of said acoustic waves is less than about 1 second.

177. A device for treating unwanted hair, the device comprising:  
a transducer for generating acoustic waves; and  
a wave condenser for condensing and transmitting said acoustic waves through the hair;

wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

178. The device of claim 177, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

179. The device of claim 177, wherein said transducer and said wave condenser are designed and constructed such that when said acoustic waves are transmitting through the hair, heat is generated at a follicle, a dermal papilla, a hair bulge and/or a germinal matrix of the hair, said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.

180. The device of claim 177, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.

181. The device of claim 177, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.

182. The device of claim 177, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.

183. The device of claim 177, wherein said wave condenser is designed and constructed to grip the hair so as to enhance acoustic coupling between the hair and said acoustic waves.

184. The device of claim 183, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

185. The device of claim 184, wherein said coupling length is longer than 1 mm.

186. The device of claim 184, wherein said coupling length is shorter than about 6 mm.

187. The device of claim 177, wherein said transducer and said wave condenser are designed and constructed such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

188. The device of claim 178, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

189. The device of claim 178, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

190. The device of claim 177, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

191. The device of claim 190, wherein said frequency is an off-resonance frequency.

192. The device of claim 190, wherein said transducer is an ultrasound transducer generating ultrasound waves.

193. The device of claim 177, wherein said transducer comprises an active element selected from the group consisting of a piezoelectric ceramic element, and a piezoelectric composite element.

194. The device of claim 193, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one active element.

195. The device of claim 193, wherein said wave condenser comprises a first part coupled to said first part of said transducer, and a second part coupled to said second part of said transducer.

196. The device of claim 193, wherein said transducer comprises a planar active element.

197. The device of claim 193, wherein said transducer comprises a concaved active element.

198. The device of claim 193, wherein said transducer comprises a plurality of active elements arranged on a surface.

199. The device of claim 198, wherein said surface is a plane.

200. The device of claim 198, wherein said surface is a concaved surface.

201. The device of claim 177, further comprising a focusing element coupling said transducer and said wave condenser, said focusing element being designed and constructed to focus said acoustic waves into said wave condenser.

202. The device of claim 201, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one active element.

203. The device of claim 193, wherein each of said wave condenser and said focusing element comprises a first part and a second part, and further wherein said first part of said focusing element couples said first part of said transducer and said first part of said wave condenser and said second part of said focusing element couples said second part of said transducer and said second part of said wave condenser.

204. The device of claim 201, wherein said focusing element comprises a tapered housing.

205. The device of claim 204, wherein a profile of said tapered housing is selected from the group consisting of a stepped profile, a linear profile, a segmented linear profile and an exponential profile.



206. The device of claim 198, further comprising a plurality of focusing elements arranged such that each focusing element of said plurality of focusing elements is connected to one active element of said plurality of active elements and being designed and constructed to focus a respective portion of said acoustic waves into said wave condenser.

207. The device of claim 192, wherein said wave condenser comprises a chamber configured to receive the hair such that energy of said acoustic waves is transferred to the hair from a plurality of directions.

208. The device of claim 207, wherein said chamber contains an ultrasound transmission gel.

209. The device of claim 207, wherein said wave condenser comprises a surface characterized by a radius of curvature of from about 1 millimeter to about 10 millimeters.

210. The device of claim 209, wherein a shape of said surface is selected from the group consisting of a sphere, a cylinder, an ellipsoid, a paraboloid, a hyperboloid and any combination or portion thereof.

211. The device of claim 177, wherein said wave condenser is operable to split thereby to form a gap for receiving the hair.

212. The device of claim 177, wherein said wave condenser and said transducer are operable to split thereby to form a gap for receiving the hair.

213. The device of claim 201, wherein said wave condenser and at least one of said transducer and said focusing element are operable to split thereby to form a gap for receiving the hair.

214. The device of claim 211, further comprising a drive mechanism for imparting a motion of said wave condenser relative to the hair.

215. The device of claim 214, wherein said wave condenser is operable to periodically split and reassemble in a manner such that when said wave condenser splits, the hair engages said gap, and when said wave condenser is reassembled, the hair is gripped by said wave condenser and irradiated by said acoustic waves.

216. The device of claim 214, wherein said drive mechanism is configured to impart a rotary motion to said wave condenser.

217. The device of claim 214, wherein said drive mechanism is configured to impart a reciprocal linear motion to said wave condenser.

218. The device of claim 177, further comprising a hair capturer, operatively associated with said wave condenser, for capturing the hair.

219. The device of claim 218, wherein said hair capturer is selected from the group consisting of a brush, a net and a clamp.

220. The device of claim 218, wherein said hair capturer is operable to lubricate the hair with an ultrasound transmission gel.

221. The device of claim 218, further comprising said ultrasound transmission gel.

222. The device of claim 218, wherein said hair capturer is operable to pull the hair so as to effect a detachment of the hair.

223. The device of claim 192, wherein said ultrasound waves are at a frequency of at least 150 kHz.

224. The device of claim 192, wherein said ultrasound waves are at a frequency of at least 500 kHz.

225. The device of claim 192, wherein said ultrasound waves are at a frequency range of from about 150 kHz to about 1300 kHz.

226. The device of claim 192, wherein said ultrasound waves are at a frequency range of from about 500 kHz to about 1000 kHz.

227. The device of claim 177, wherein said transducer is configured to generate said acoustic waves at a power density of at least 1 watt per square centimeter.

228. The device of claim 177, wherein said transducer is configured to generate said acoustic waves at a power density of from about 1 watt per square centimeter to about 100 watts per square centimeter.

229. A method of treating unwanted hair, comprising transmitting acoustic waves at a frequency of from about 150 kHz to about 1300 kHz through the hair.

230. The method of claim 229, wherein said transmitting said acoustic waves through the hair is for generating heat at a follicle, a dermal papilla, a hair bulge and/or a germinal matrix of the hair, said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.

231. The method of claim 229, further comprising using a wave condenser for condensing said acoustic waves, prior to said transmitting of said acoustic waves through the hair.

232. The method of claim 229, further comprising gripping the hair prior to transmitting of said acoustic waves so as to enhance acoustic coupling between the hair and said acoustic waves.

233. The method of claim 232, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic

waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.

234. The method of claim 232, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.

235. The method of claim 232, wherein said gripping comprises positioning the hair and/or said wave condenser such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.

236. The method of claim 232, further comprising pulling the hair so as to effect a detachment of the hair.

237. The method of claim 232, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

238. The method of claim 237, wherein said coupling length is longer than about 1 mm.

239. The method of claim 237, wherein said coupling length is shorter than about 6 mm.

240. The method of claim 229, wherein said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

241. The method of claim 229, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

242. The method of claim 12, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

243. The method of claim 242, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

244. The method of claim 242, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

245. The method of claim 229, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected such that said generation of said heat is such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

246. The method of claim 245, wherein said frequency is an off-resonance frequency.

247. The method of claim 229, wherein duration of transmission of said acoustic waves is less than about 5 seconds.

248. The method of claim 229, wherein duration of transmission of said acoustic waves is less than about 1 second.

249. A device for treating unwanted hair, the device comprising:

a transducer for generating acoustic waves at a frequency of from about 150 kHz to about 1300 kHz; and

a wave condenser for condensing and transmitting said acoustic waves through the hair.

250. The device of claim 249, wherein said transducer and said wave condenser are designed and constructed such that when said acoustic waves are transmitting through the hair, heat is generated at a follicle, a dermal papilla, a hair bulge and/or a germinal matrix of the hair, said heat being in itself sufficient to damage or destroy said follicle, said dermal papilla, said hair bulge and/or said germinal matrix.

251. The device of claim 249, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally parallel to a longitudinal axis of the hair.

252. The device of claim 249, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally perpendicular to a longitudinal axis of the hair.

253. The device of claim 249, wherein said wave condenser is designed and constructed such that a propagation direction of said acoustic waves while entering said wave condenser is generally inclined to a longitudinal axis of the hair.

254. The device of claim 249, wherein said wave condenser is designed and constructed to grip the hair so as to enhance acoustic coupling between the hair and said acoustic waves.

255. The device of claim 254, wherein said acoustic coupling is characterized by a coupling length selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

256. The device of claim 255, wherein said coupling length is longer than 1 mm.

257. The device of claim 255, wherein said coupling length is shorter than about 6 mm.

258. The device of claim 249, wherein said transducer and said wave condenser are designed and constructed such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

259. The device of claim 249, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected so as to minimize vibrations of the hair.

260. The device of claim 259, wherein said vibrations of the hair comprises longitudinal vibration of the hair.

261. The device of claim 260, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 10 micrometers.

262. The device of claim 260, wherein said frequency, said power density and/or said duration of transmission of said acoustic waves is selected such that a characteristic amplitude of said longitudinal vibrations of the hair is below 5 micrometers.

263. The device of claim 249, wherein at least one of: a frequency, a power density and duration of transmission of said acoustic waves is selected such that said heat at said follicle, said dermal papilla, said hair bulge and/or said germinal matrix results in a temperature increment of at least 20 degrees centigrade.

264. The device of claim 263, wherein said frequency is an off-resonance frequency.

265. The device of claim 263, wherein said transducer is an ultrasound transducer generating ultrasound waves.

266. The device of claim 249, wherein said transducer comprises an active element selected from the group consisting of a piezoelectric ceramic element, and a piezoelectric composite element.

267. The device of claim 266, wherein said transducer comprises a first part and a second part; each of said first part and said second part comprises at least one active element.

268. The device of claim 266, wherein said wave condenser comprises a first part coupled to said first part of said transducer, and a second part coupled to said second part of said transducer.

269. The device of claim 266, wherein said transducer comprises a planar active element.

270. The device of claim 266, wherein said transducer comprises a concaved active element.

271. The device of claim 266, wherein said transducer comprises a plurality of active elements arranged on a surface.

272. The device of claim 271, wherein said surface is a plane.

273. The device of claim 271, wherein said surface is a concaved surface.



274. The device of claim 249, further comprising a focusing element coupling said transducer and said wave condenser, said focusing element being designed and constructed to focus said acoustic waves into said wave condenser.

275. The device of claim 274, wherein said transducer comprises a first part and a second part, each of said first part and said second part comprises at least one active element.

276. The device of claim 266, wherein each of said wave condenser and said focusing element comprises a first part and a second part, and further wherein said first part of said focusing element couples said first part of said transducer and said first part of said wave condenser and said second part of said focusing element couples said second part of said transducer and said second part of said wave condenser.

277. The device of claim 274, wherein said focusing element comprises a tapered housing.

278. The device of claim 277, wherein a profile of said tapered housing is selected from the group consisting of a stepped profile, a linear profile, a segmented linear profile and an exponential profile.

279. The device of claim 271, further comprising a plurality of focusing elements arranged such that each focusing element of said plurality of focusing elements is connected to one active element of said plurality of active elements and being designed and constructed to focus a respective portion of said acoustic waves into said wave condenser.

280. The device of claim 265, wherein said wave condenser comprises a chamber configured to receive the hair such that energy of said acoustic waves is transferred to the hair from a plurality of directions.

281. The device of claim 280, wherein said chamber contains an ultrasound transmission gel.

282. The device of claim 280, wherein said wave condenser comprises a surface characterized by a radius of curvature of from about 1 millimeter to about 10 millimeters.

283. The device of claim 282, wherein a shape of said surface is selected from the group consisting of a sphere, a cylinder, an ellipsoid, a paraboloid, a hyperboloid and any combination or portion thereof.

284. The device of claim 249, wherein said wave condenser is operable to split thereby to form a gap for receiving the hair.

285. The device of claim 249, wherein said wave condenser and said transducer are operable to split thereby to form a gap for receiving the hair.

286. The device of claim 274, wherein said wave condenser and at least one of said transducer and said focusing element are operable to split thereby to form a gap for receiving the hair.

287. The device of claim 284, further comprising a drive mechanism for imparting a motion of said wave condenser relative to the hair.

288. The device of claim 287, wherein said wave condenser is operable to periodically split and reassemble in a manner such that when said wave condenser splits, the hair engages said gap, and when said wave condenser is reassembled, the hair is gripped by said wave condenser and irradiated by said acoustic waves.

289. The device of claim 287, wherein said drive mechanism is configured to impart a rotary motion to said wave condenser.

290. The device of claim 287, wherein said drive mechanism is configured to impart a reciprocal linear motion to said wave condenser.

291. The device of claim 249, further comprising a hair capturer, operatively associated with said wave condenser, for capturing the hair.

292. The device of claim 291, wherein said hair capturer is selected from the group consisting of a brush, a net and a clamp.

293. The device of claim 291, wherein said hair capturer is operable to lubricate the hair with an ultrasound transmission gel.

294. The device of claim 291, further comprising said ultrasound transmission gel.

295. The device of claim 291, wherein said hair capturer is operable to pull the hair so as to effect a detachment of the hair.

296. The device of claim 265, wherein said ultrasound waves are at a frequency of at least 150 kHz.

297. The device of claim 265, wherein said ultrasound waves are at a frequency of at least 500 kHz.

298. The device of claim 265, wherein said ultrasound waves are at a frequency range of from about 150 kHz to about 1300 kHz.

299. The device of claim 265, wherein said ultrasound waves are at a frequency range of from about 500 kHz to about 1000 kHz.

300. The device of claim 249, wherein said transducer is configured to generate said acoustic waves at a power density of at least 1 watt per square centimeter.

301. The device of claim 249, wherein said transducer is configured to generate said acoustic waves at a power density of from about 1 watt per square centimeter to about 100 watts per square centimeter.